

**REMARKS/ARGUMENTS**

Claims 1-27 are pending in this application. By this Amendment, claims 1 and 12 are amended. The amendments to claims 1 and 12 are for clarification purposes only. Thus, it is respectfully submitted that the amendments to claims 1 and 12 do not raise new issues. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance (for the reasons discussed herein); (2) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter); (3) satisfy a requirement of form asserted in the previous Office Action; and/or (4) place the application in better form for appeal (if necessary). Entry is thus requested.

**I. Objection to Claim 27**

The Office Action objects to claims 27 under 37 CFR 1.75(c), alleging that claim 27 fails to further limit the subject matter of independent claim 12. Applicant respectfully disagrees.

Independent claim 12 is directed to an apparatus for sensing a fluid level of a washing machine. Dependent claim 27 recites a washing machine comprising the apparatus of claim 12. It is respectfully submitted that the application of the apparatus recited in independent claim 12 into a washing machine, as recited in dependent claim 27, does further limit the scope of claim 12. Accordingly, it is respectfully submitted that claim 27 meets the requirements of 37 CFR 1.75(c), and thus the objection to claim 27 should be withdrawn.

**II. Rejection Under 35 U.S.C. §102(b)**

The Office Action rejects claims 1-5, 9, 11-15, 19 and 27 under 35 U.S.C. §102(b) over U.S. Patent No. 4,835,991 to Knoop et al. (hereinafter "Knoop"). The rejection is respectfully traversed.

Independent claim 1 is directed to a washing machine which includes a fluid level sensing apparatus. Independent claim 1 recites that the fluid level sensing apparatus comprises an air chamber configured to be installed in communication with the tub, wherein the air chamber is configured to store a predetermined amount of air such that a pressure of the washing fluid held in the tub imposes a corresponding pressure on the stored air, a tube configured to be installed in communication with the air chamber, a sensor coupled to the tube and configured to sense a washing fluid level by sensing an air pressure in the tube, and a protecting member configured to prevent breakage of the air chamber and the tube, or disassembly of the air chamber from the tube. Independent claim 12 recites similar features in varying scope. Knoop neither discloses nor suggests at least such features, or the respective claimed combinations of features.

Knoop discloses a top loading agitator type washing machine 10 in which a water level is monitored by a pressure sensor 44. The pressure sensor 44 includes a first chamber 50 attached to an outer surface of the tub 14, and a separate second chamber 52 connected to the first chamber 50 by a conduit 54. The second chamber 52 is elevated with respect to the first chamber 50, and is connected to an electronic pressure transducer 64 by a conduit 62. As the tub 14 fills, the first chamber 50 acts as a reservoir, and fills and overflows into the conduit 54 to partially fill the second chamber 52, causing increased pressure in air trapped in the second

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chamber 52 and the conduit 62. This pressure is detected by a transducer 64, which signals a microprocessor 68 to initiate a wash cycle.

The Office Action asserts that the first chamber 50 is appropriately compared to the protecting member recited in independent claims 1 and 12. However, the recited protecting member is configured to prevent breakage of the air chamber and the tube, or disassembly of the air chamber from the tube, as described, for example, in paragraphs 35 and 36 of the present application. In contrast, as acknowledged in the Office Action, the first chamber 50 is simply a holding tank or reservoir which attaches the conduit 54 and second chamber 52 serially to the tub 14 to direct water towards or away from the second chamber 52 based on a water level and/or oscillatory movement of the tub 14. This connection provided by the first chamber 50, which the Office Action asserts prevents disassembly of the conduit 54 and second chamber 52 from the tub 14, is merely to provide a path for the flow of water therethrough so that pressure can be monitored as described above. The first chamber 50 and its connection to the tub 14 provide no protection to the second chamber 52 and/or the conduit 54 against breakage, nor protection from disassembly of the conduit 54 from the second chamber 52.

Rather, it is respectfully submitted that the fixed attachment of the first chamber 50 to the tub 14 on one side and to the conduit 54, second chamber 52 and conduit 62 on its other side would be more likely to cause damage or disassembly of these components as the tub 14 oscillates and/or the tub 14/machine 10 vibrates during operation, similar to that which is set forth in paragraph 4 of the present application. Thus, it appears that Knoop's washing machine 10 would exhibit similar problems to those set forth with the prior art. Accordingly, it is

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respectfully submitted that Knoop neither discloses nor suggests a protecting member as recited in independent claims 1 and 12.

For at least these reasons, it is respectfully submitted that independent claims 1 and 12 are not anticipated by Knoop, and thus the rejection of independent claims 1 and 12 under 35 U.S.C. §102(b) over Knoop should be withdrawn. Dependent claims 2-5, 9, 11, 13-15, 19 and 27 are allowable at least for the reasons set forth above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features.

More particularly, Knoop neither discloses nor suggests that the second chamber (compared in the Office Action to the recited air chamber) is configured to be connected to a drain pipe, as recited, for example in claims 2 and 13, nor to a drain extension pipe, as recited for example, in claims 3 and 14. Rather, the air chamber is connected to a conduit 62 which remains filled with air whose pressure is monitored by the transducer 64.

Further, Knoop neither discloses nor suggests that the first chamber 50 (compared in the Office Action to the recited protecting member) is configured to attach the second chamber 52 (compared in the Office Action to the recited air chamber) to a peripheral part of the washing machine, as recited, for example, in claims 11 and 19. Rather, the first chamber 50 attaches the second chamber 52 to the tub 14, which is an internal component, rather than a peripheral part of the washing machine.

### **III. Rejections Under 35 U.S.C. §103(a)**

The Office Action rejects claims 6-8 and 16-18 under 35 U.S.C. §103(a) over Knoop. The Office Action also rejects claims 10 and 20-26 under 35 U.S.C. §103(a) over Knoop in view

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of U.S. Patent No. 6,447,017 to Gilbreath (hereinafter "Gilbreath"). These rejections are respectfully traversed.

Dependent claims 6-8, 10, 16-18 and 20-26 are allowable over Knoop at least for the reasons set forth above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features. Further, it is respectfully submitted that it would not have been obvious to modify the washing machine 10 disclosed by Knoop in the manner suggested in the Office Action. Additionally, Gilbreath is merely cited as allegedly teaching a boss and a flange, and thus fails to overcome the deficiencies of Knoop. Accordingly, it is respectfully submitted that claims 6-8, 10, 16-18 and 20-26 are allowable over the respective applied combinations, and thus these rejections should be withdrawn.

Further, Knoop neither discloses nor suggests that there would be any advantage to including a rib which extends from the second chamber 52 so as to enclose a connection between the second chamber and the conduit 62, as recited, for example, in claims 6 and 16, let alone a rib which is configured as recited, for example, in claims 7, 8, 17, and 18. Rather, the addition of such a rib would likely add undue complexity to the design as disclosed by Knoop.

#### IV. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Joanna K. Mason, at the telephone number listed below.

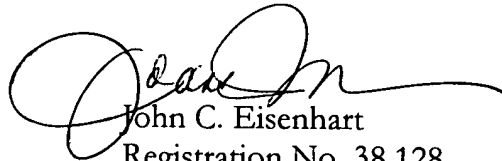
- Serial No. **10/717,966**  
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Docket No. **K-0552**

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,

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